

REMARKS

This is in full and timely response to the above-identified Office Action. The above listing of the claims supersedes any previous listing. Favorable reexamination and reconsideration is respectfully requested in view of the preceding amendments and the following remarks.

In this response claims 22 and 23 have been amended to correct minor typographical errors. These amendments do not effect the scope of the claims, introduce any new matter or require further search and/consideration.

Rejections under 35 USC § 103

- 1) The rejection of claims 1, 3-4, 6, 8-14 and 16-21 under 35 USC § 103(a) as being unpatentable over West et al. in view of Mulroy et al. is again respectfully traversed.

A first stumbling block is why a hypothetical person of ordinary skill would be inclined to transfer teachings which relate to a roll-forged drill bit (Mulroy et al) to what is basically a self-tapping screw (West et al). The drill bit of Mulroy et al., is obviously intended to cut and clear its path as it forms a hole in a work piece. The self-drilling anchor bolt is, to the contrary, not intended to create a hole and not intended to clear material, but to wend its way in and essentially bury itself in the material without clearing its path and so that it is anchored in the material.

A drill bit which anchors itself in this manner would be inoperative for its intended purpose. That is to say, the drill bit is intended to cut material, remove the cut material and be readily removable from the work piece - the very antithesis of the anchor bolt mode of operation.

So the question is - is a self-tapping screw (anchor bolt) and a drill bit, analogous art? The drill bit is configured to make a clear hole - the self-tapping screw is configured to avoid forming a hole but to worm into the material in the least hole forming manner. If the self-tapping screw or anchor bolt forms a hole it will come out easily and therefore defeat the very purpose of becoming anchored in the material.

Therefore, it must be asked if a cutting structure from a drill bit which is intended to make a hole and to allow the drill bit to be easily withdrawn from the hole, be considered suitable for use with a self-tapping screw which seeks to become solidly anchored in the material into which it is screwed? The Applicants submit that the answer is NO.

Mulroy et al. is submitted to relate to art which is non-analogous with respect to that to West et al. is directed. Conceptually, one relates to anchoring, the other relates to excavation.

Two criteria have evolved for determining whether prior art is analogous or not. The first of these criteria is whether the art is from the same field of endeavor, regardless of the problem that is addressed. The second of the two criteria is, if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent of the particular problem with which the inventor is involved. *In re Deminski*, 796 F.2d 436, 442, 230 USPQ 313, 315 (Fed.Cir. 1986); *In re Wood* 599 F.2d 1032, 1036, 202 USPQ 171, 174 (CCPA 1979).

Thus, in connection with the fields of endeavor, "anchoring" and "excavation" are seen as being diametrically different and the particular problem of improved anchoring vis-à-vis the improved cutting of a clear hole (drilling and excavating material) are not reasonably pertinent with respect to one another. The two references therefore fail to meet the requirements of analogous art and should not be used together in the same rejection.

Irrespective of the above issue, the Applicant again submits that that rejection picks and chooses by selectively reading the claims on the structure disclosed in West et al. and further fails to take into consideration the disclosure of the West et al. reference as a whole as per the requirements imposed on the hypothetical person of ordinary skill. This is highlighted by the preceding non-analogous argument. That is to say, at the very least, the rejection fails to take into consideration that West et al. discloses, in connection with the embodiment shown in Fig. 7B (which is relied upon for rejection), the use of two cutting features 127 and a sharpened projection 125. This latter mentioned sharpened projection 125 and its guiding function cannot be ignored.

As the Examiner has indicated on page 10 of the Final Office Action that the "test for combining references is what the combination of the disclosures taken as a whole would suggest to one of ordinary skill in the art - *In re McLaughlin* 170 USP 209 (CCPA 1971). The teachings of the sharpened projection 125 - which forms a clearly disclosed part of the disclosure of West et al. - therefore must be taken into consideration when the disclosure of West et al. is taken as whole and cannot be ignored as appears to be clearly the case.

Column 5, lines 40-63 of West et al., as follows:

The anchor bolt 100 extends from a first end 130 to a second end 132. Proximate to the first end 130 is the shank 110, and proximate the second end 132 is the drill portion 120. The drill portion 120 has, in one embodiment, a smaller diameter than the shank 110. The drill portion 120, in another embodiment, comprises a drill bit. The drill portion 120 extends from proximate the shank 110 to a drill tip 124. The drill tip 124, in one embodiment, is sharpened to a point 126. The point 126 of the drill tip 124 is sharpened to assist in the installation process. **In another embodiment, as illustrated in FIG. 1B, the drill tip 124 has a sharpened projection 125 in combination with extended cutting features 127 of the drill portion 120.** The sharpened projection, in one embodiment, is aligned with the radial axis 109 of the anchor bolt 100. The extended cutting features 127 extend from the drill portion to a point 129. The extended cutting features 127 allow for the anchor bolt 100 to self-tap into a wall, and eliminate the need for extra tools, such as a drill, when installing the anchor bolt. **The sharpened projection 125 assists in centering the anchor bolt 100 as the extended cutting features 127 engage with the wall.** In addition, the sharpened projection 125 prevents the anchor

bolt 100 from wandering during installation of the anchor bolt 100 into the wall. (Emphasis added)

The rejection fails to establish how this clearly disclosed guiding/centering function can be ignored and not given the weight it clearly should. Indeed, it is clear that the sharpened projection 125 and its intended centering/guiding use, would be considered by the hypothetical person of ordinary skill when contemplating a modification of West et al. via a transfer of teachings of Mulroy et al. and would influence the outcome of any such contemplation. This is deemed to be especially self-evident in light of the anchoring v excavation differences in concept which are demonstrated by the two references applied in this rejection when each is taken as a whole.

It is also clear that the projection 125 is not a central cutting element as per Mulroy et al. but is located exactly where this central cutting element, if it were to be introduced, into West et al., would have to be placed to replace the projection 125. This would obviate the guiding function it is intended to provide. Again the question is anchor or excavate? Cut and clear like a drill or dig in and anchor like a self tapping screw.

Indeed, inasmuch as all of the embodiments which feature the two cutting features 127 also have the projection 125, it is self-evident that the centering effect and guidance, which is disclosed as being provided by the projection 125, would be noted and duly considered by the hypothetical person of ordinary skill, to be of importance and would not be ignored for the sake of adding another cutting element - especially when diametrically operational concepts (anchor or excavate) are involved.

The need to put a cutting element in the position where a guiding element is located is clearly necessary if the Examiner's position is to be tenable. However, as noted above, the loss of the projection 125 in favor of another drilling element will certainly remove an important guiding function and thus would render the West et al. arrangement at least partially inoperative for its intended anchoring function while more than likely changing the structure so that it defeatingly removes (drills out) vital material needed for a solid anchoring effect.

"If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)." M.P.E.P. § 2143.02.

Further:

"If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)." M.P.E.P. § 2143.01.

Thus, a major stumbling block to the purported obvious combination of West et al. and Mulroy et al. clearly exists.

A further problem resides in the position taken with respect to the motivation which is advanced as being sufficient to lead the person of ordinary skill to the claimed subject matter. That is to say, the rejection alleges that the purportedly obvious combination would be made because the resulting configuration would "allow a more concrete engagement of a work piece" "thereby allowing a more efficient drilling event."

Apart from contradictorily relying on "better cutting" (excavation) leading to "better engagement" (anchoring), the presumption that a more efficient arrangement would result is mere unsupported supposition/conjecture and amounts to nothing more than a hollow conclusory statement that is totally unsubstantiated. This must be particularly considered to be the case when the apparent need to replace the centering feature 125, if the claimed subject matter were to be rendered obvious via the combination of West et al. and Mulroy et al., is taken into consideration. Indeed, it must be noted that Mulroy et al, is directed to roll forged drill bits - as

different from other production techniques - and that this aspect of the Mulroy et al. reference has not been taken into any consideration whatsoever in the rejection.

Yet another problem with the rejection is that the Examiner has had to add numerals to the figures of Mulroy et al. to indicate the surfaces which are being claimed and which have been assumed to be found in Mulroy et al. This infers that it is necessary to add disclosure, based on a working knowledge of the claimed subject matter, to that which can normally be distilled from Mulroy et al. taken as a whole. This appears to be contrary to the requisite under § 103, that the reference, when taken by a hypothetical person of ordinary skill, would, without modifications/additions (including interpretations by an Examiner who is fully cognizant of the claimed subject matter), lead toward the claimed subject matter.

In the paragraph spanning pages 10 and 11 of this Office Action, the Examiner has indicated that it is "pertinent to point out that claims in a pending application should be given their broadest reasonable interpretation." This is all well and good for a rejection under § 102- but how does the hypothetical person of ordinary skill in the art become cognizant of the claim language and use this knowledge to guide the interpretation of the teachings which can be gleaned from the cited art under § 103? - noting that the rejection is under § 103 and not under § 102.

Further, it is questionable if the surface the Examiner has labeled (4) is in fact flat. That is to say, the lead line which is associated with the Examiner's added numeral (4) would seem to designate one of the flutes. Flutes by their nature are helically curved and cannot, without very clear contradictory disclosure, be considered to be flat instead of constantly curving in at least two directions. It is therefore, advanced that the assumption that surface (4) is flat, cannot be distilled with any degree of confidence from any of the information that is available from Mulroy et al. (as it was published) and is indicative that the claims have been used as road map in this rejection.

It is without question, that in order to arrive at a *prima facie* case of obviousness that the references must "suggest" the claimed subject matter as different from just containing structure which, if appropriately interpreted in light of what is being claimed, could be introduced into

another arrangement (i.e. the arrangement disclosed in West et al.) and a rejection cobbled together.

- 2) The rejection of claims 2, 5 and 15 under 35 US § 103(a) as being unpatentable over West et al. in view of Mulroy et al. and further in view of Carlson et al., is respectfully traversed.

It is respectfully submitted that this rejection fails to establish a *prima facie* case of obviousness for the same reason that the above discussed rejection based on West et al. and Mulroy et al. so fails.

The rejection further fails in that Carlson et al. disclose a stud which is adapted to be threaded into a plastic substrate/boss 17. Studs by their very nature have threads on both ends. Why the hypothetical person would bother with the teachings which relate to a specialized stud in connection with a self-drilling anchor bolt of West et al. or a drill bit of Mulroy et al. is not established nor is there any plausible motivation presented as to why the hypothetical person of ordinary skill would consider a transfer of teachings in the manner purported to be obvious in this Office Action. Indeed, again we appear to have a non-analogous art situation or at the very least a situation wherein there is no reason to use the teachings relating to studs on drill bit or a self-tapping screw arrangement.


Conclusion

It is respectfully submitted that the claims are allowable over the art which has been applied in this Office Action. Favorable reconsideration and allowance of this application are courteously solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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